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HYGIENISCHE INSTITUT DES RUHRGEBIETS GELSENKIRCHEN

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[1945]

COMBINED INTELLIGENCE OBJECTIVES
SUB-COMMITTEE

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HYGIENISCHES INSTITUT DES RUHRGEBIETS
GELSENKIRCHEN

Reported by
CHARLES L. MCCARTHY
Commander, M.C., U.S.N.R.

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COMBINED INTELLIGENCE OBJECTIVES SUB-COMMITTEE
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Personnel of Team.

Francis J. Curtis, U.S. Civilian.
Fennimore E. Davis, Major. M.C.,
R. Cannon Eley, Commander, M.C. USNR
Chas. L. McCarthy, Commander, M.C., USNR
M.F. Fogler, Ph.D., U.S. Civilian.
Joseph E. Smadel, M.C., AUS Lt. Colonel
Hamilton Southworth, Lt. Colonel, U.S.P.H.S.
E.H. Volwiler, PH.D., U.S. Civilian, (Team Leader)

R E S T R I C T E D

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HYGIENISCHES INSTITUT DES RUHRGEBIETS

I. ORGANIZATION OF THE HYGIENISCHES INSTITUT

The target was visited 19 April 1945 by CIOS Team No 110. This laboratory was said to be the largest of its type in Germany, serving a population of about 18,500,000 persons and covering an area from Aachen to Minden and, from north to south, from Halten to Siegen. Its functions are similar in many respects to those of a state public health laboratory in the United States. It is, however, a private institution supported by contributions or assessments from cities, labor unions, industrial plants and similar units of society at the rate of 15 Reichmarks per 1000 persons per year.

The institute was housed in a modern five story brick and stone building approximately 120 x 60 feet. In addition, there was a two story animal house 25 X 16 feet. The laboratories were damaged by bombing on 7 November 1944. After this date, all investigative work stopped and most of the diagnostic laboratory procedures which required the use of animals was discontinued because of inability to secure fodder for them. Further extensive damage was done by bombing on 19 March 1945 following which all work ceased.

When visited about two-thirds of the laboratory buildings were completely useless. In addition, the adjacent animal house was completely ruined except for its cellar. Efforts were in progress to make a portion of the remaining one-third of the laboratory usable. This was progressing satisfactorily and Dr. Heine, its director, believed the institute would be able to perform some of its former functions, i.e., bacterial analysis of water, general bacteriology and serology by 25 April 1945 when water and electric current would again become available.

The staff formerly consisted of 45 full time employees of whom 12 were specially trained physicians. Hours of work for this group numbered 42 per week as dictated by labor unions. There were also 75 student assistants who were being trained as laboratory technicians and who worked about 12 hours daily. Only two trained physicians are available at present.

II. FUNCTIONS AND ACTIVITIES

One of the main functions of this institute was to determine the potability of the water supply of the entire Ruhr area. This consisted of the usual types of bacterial and chemical analyses which were ordinarily performed about once every two weeks. In addition, a group of 7 persons was constantly engaged in the collection of samples of water for examination by the institute. Each of the larger water works was visited every week while the smaller installations were visited monthly. Most of the drinking water in the Ruhr is obtained from deep wells. The raw water has a low bacterial count, less than ten organisms per cc. and no coliform organisms. It generally receives no treatment other than chlorination. Chlorine was formerly obtained from Leverkusen but this supply ceased some time ago and chlorine was brought up from the middle Germany. The present supply is adequate only for about one week. The population has been advised to boil all drinking water until further notice. The annual number of bacterial analyses of water was usually in the neighborhood of 18,000.

The bacteriological techniques which were employed appeared to be the same as those in Allied countries. A modified tellurite medium designated as "Corrected Clauberg III, Medium," seemed highly satisfactory in the cultural diagnosis of diphtheria. A copy of the formula is given in Appendix 1.

Prior to the war, the incidence of sero-positive syphilis was about 3 percent in the Ruhr population. Since the war it has gradually risen until it is now about 12 percent. The Wassermann, Sachs-Meinicke and the Kahn reactions were routine tests. No penicillin was available and syphilis was treated with arsenicals and bismuth.

The usual slide, culture and animal inoculation studies were done in the diagnosis of tuberculosis.

It was stated that this institute made over 8,000,000 stool examinations for hookworm in the last five years. This disease was practically unknown in Germany until a large number of miners were brought into Germany after having worked on the Gotthard Tunnel. Last year, 1,800 new cases were reported in the Ruhr area.

Examination of 4,000,000 industrial workers in the Ruhr showed 42.8 percent to be infected with some form of epidermomycosis involving especially the feet and hands. However, only 2 percent of the total number which were found to be infected were classified as serious enough to cause the patients to stop work. An ointment called "Dermaphytin Salbe" containing multiple trichophytin substances (extract) was used with no apparent benefit. The best results were obtained from the use of astringent lotions and from teaching the patient the proper care of the feet.

Associated with the Hygienisches Institut is a pathological institution called Pathologisches und Gewerbepathologisches Institut, Gelsenkirchen. This has not been in operation since the bombing 7 November 1944 when it was completely destroyed. The principal work in this institute was devoted to routine autopsy work for the city of Gelsenkirchen (108,000 persons) and research studies in industrial diseases of miners. Its director was Prof. Dr. G. Gerstel.

III. AN INTERVIEW WITH DR. HEINE

Several hours were spent with the Director, Dr. Heine who was in charge of all laboratory work except that devoted to pathology. The latter was under the direction of Prof. Dr. Gerstel at the Pathologisches Institut and was mentioned in the preceding paragraph. Dr. Heine was about 40 years old and although he spoke no English he was most cooperative. He has done extensive investigative work on tuberculosis, hookworm and ringworm disease. Hookworm, which was formerly a fairly common industrial disease among miners and iron workers, is now relatively uncommon. This decrease in the incidence of this disease was attributed to the adoption of the "dry" process instead of the "Wet" process for controlling dust in mines. Dr. Heine gave the impression of being a sound investigator, a competent laboratory man and a physician genuinely interested in the health of the people.

The following information on infectious disease was obtained from Dr. Heine: The most common infectious diseases were diphtheria, scarlet fever and tuberculosis. A list of the infectious diseases from one district in the Ruhr consisting of about 4,500,000 people for the week of 21 January to 27 January 1945 was as follows:

	<u>Diphtheria</u>	<u>Scarlet Fever</u>	<u>Whooping Cough</u>	<u>T.B.</u>	<u>Typhoid Fever</u>	<u>Typhus Fever</u>
Cases	250	223	27	331	3	2
Deaths	28	1	2	30	0	1

The increase in the rate of tuberculosis in the entire population of the Ruhr has been only about 12 percent during the past two years. Some increase occurred among the Germans but the principal increase was among foreign workers.

Typhus fever has not been common in this area. There were two cases reported in the week of January 21 to 27 and there was one suspected case in the hospital at Gelsenkirchen at the time of this investigation. Laboratory diagnosis was limited to the Weil-Felix Test. During May 1944 there was an outbreak of typhus fever at Mülheim, which occurred among and was limited to the foreign workers. There were 500 cases and 139 deaths.

APPENDIX I

Korrigierter Clauberg III - Nährboden.

Nach Herrman

A. Grundgemisch:

230 ccm Aqua dest. (steril)
100 ccm Rinderserum
170 ccm defibriniertes Rinderblut
25 ccm Blutglycerin (bestehend aus 2 Teilen Blut und
1 Teil Glycerin; muss mindestens
6 Wochen alt sein.

B.

420 ccm 3 % Agar-Agar, ph 7,0
15 g Traubenzucker
direkt dem) 12,5 ccm Cystinlösung (1 %ig)
flüssigen Agar) 1,5 ccm Natriumacetatlösung (50 %ig)
zusetzten) 80 ccm Tellurlösung (1 %ig), heiss
lösen!
ph-Wert messen!
ph-Wert 8,0 - 8,1
60 ccm Wasserblaulösung (2 %ig)
(Wasserblau 6 B extra P.,
Standard Clauberg, Dr.
Grübler & Co. Leipzig).

Das Grundgemisch A und Lösung B 1/2 Stunde ins Wasserbad, dann zusammen giessen und mischen, pH-Wert bestimmen.

pH-Wert 7,6 - 7,7.

Herstellung der Cystinlösung.

1 gr wasserfreie Soda wird in 10 ccm Aqua dest. kochend gelöst, dann wird 1 gr Cystin in die Lösung geschüttet. Nachdem sich das Cystin gelöst hat, wird dieses Gemisch mit Aqua dest. auf 100 ccm aufgefüllt.

Natriumacetatlösung.

50 gr Natriumacetat
50 ccm Aqua dest. heiss lösen

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